

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A bone implant (10) suitable for implantation in an implantation direction parallel to an implant axis (I) in a cavity surrounded by a cavity wall (K) of bone tissue (3) and comprising an implant portion, wherein the implant portion to be implanted comprises a first type of surface ranges (16) of a material, which is liquefiable (M) by mechanical oscillation, or a second type of surface ranges (16) formed by pressing the liquefiable material out of a hollow space (26) in the implant through openings (27), and wherein the implant portion to be implanted further comprises cutting edges (14) capable of cutting the cavity wall of bone tissue, said cutting edges being located outside the first type of surface ranges (16) provided or the second type of surface ranges to be created, said cutting edges not extending in a common plane with the implant axis (I), said cutting edges facing toward a distal end region of the implant and extending at least partly around the circumference of the implant and wherein said cutting edges are ~~outer edges of step-shaped reductions in cross-sectional area towards the distal end of the implant portion to be implanted~~ are distanced from the implant axis by implant-axis-to-cutting-edge-distances, which implant-axis-to-cutting-edge-distances are decreasing in the implanting direction.

2. (Currently Amended) The bone implant according to claim 1, wherein the cutting edges ~~(14)~~ comprise a wedge angle (β) of less than 90°.

3. (Currently Amended) The bone implant according to claim 1, wherein the cutting edges ~~(14)~~ are designed to be salient.

4. (Currently Amended) The bone implant according to claim 1, wherein the cutting edges ~~(14)~~ are undercut to form a chip space ~~(23)~~.

5. (Currently Amended) The bone implant according to claim 1, wherein the liquefiable material (M) is situated in depressions ~~(40)~~ and the surface ranges ~~(16)~~ of the liquefiable material (M) protrude from surface areas ~~(17)~~ surrounding the depressions~~(40)~~.

6. (Currently Amended) The bone implant according to claim 1, wherein the openings ~~(27)~~ lead into the depressions~~(40)~~.

7. (Currently Amended) The bone implant according to claim 5, wherein the depressions ~~(40)~~ are grooves extending axially or spirally across the implant region to be implanted.

8. (Currently Amended) The bone implant according to claim 1, wherein osseointegrative surface areas ~~(17)~~ are situated between the surface ranges ~~(16)~~ of the liquefiable material.

9. (Currently Amended) The bone implant according to claim 1, wherein the implant portion to be implanted further comprises axially extending furrowing or tapping structures ~~(21)~~.

10. (Currently Amended) The bone implant according to claim 1, wherein the cutting edges ~~(14)~~ extend along parts of the circumference of the implant and form lower edges of scale-like structures.

11. (Currently Amended) The bone implant according to claim 1, wherein a proximal end region of the implant comprises a collar ~~(31)~~ with a lower edge fashioned as a cutting edge.

12. (Currently Amended) The bone implant according to claim 11, wherein the proximal end region comprises a ring ~~(32)~~ of a thermoplastic material.

13. (Previously Presented) The bone implant according to claim 1, wherein the implant portion to be implanted tapers toward a distal end region.

14. (Currently Amended) The bone implant according to claim 13, further comprising steps ~~(13)~~ extending wholly or partly around the implant and comprising at least partially edges fashioned as cutting edges ~~(14)~~.

15. (Currently Amended) The bone implant according to claim 14, wherein a part of the steps ~~(13)~~ have blunt edges with a wedge angle (β) of 90° or more.

16. (Currently Amended) The bone implant according to claim 1, wherein the implant portion to be implanted has an essentially cylindrical form and comprises cutting edges ~~(14)~~ protruding from the cylindrical form and being distanced from the implant axis (I) by distances which decrease in the direction of implantation.

17. (Currently Amended) The bone implant according to claim 16, wherein the cutting edges ~~(14)~~ protruding from the cylindrical form extend along a part of a circumference of the implant and are aligned in series in the axial direction.

18. (Currently Amended) The bone implant according to claim 17, further comprising at least two series of cutting edges ~~(14, 14', 14'')~~ facing each other, and wherein the surface ranges ~~(16)~~ of the liquefiable material (M) or outlets of the openings ~~(27)~~ are situated between the series on the implant's circumference.

19. (Currently Amended) The bone implant according to claim 1, further comprising a hollow space ~~(26)~~ and a piston ~~(42)~~, said piston being insertable into a proximal opening of the hollow space ~~(26)~~.

20. (Currently Amended) The bone implant according to claim 19, wherein, on a proximal end ~~(43)~~ of the piston ~~(42)~~ and/or round the proximal opening of the hollow space ~~(26)~~, means for an insulating connection between piston ~~(42)~~ and implant are provided.

21. (Currently Amended) The bone implant according to claim 1, wherein said implant carries an intermediate element ~~(52)~~ on a proximal end region.

22. (Currently Amended) The bone implant according to claim 21, wherein the intermediate element ~~(52)~~ is connected to the implant by a loose fit connection and/or is equipped to be joined to a sonotrode ~~(53)~~ via a loose fit connection.

23. (Currently Amended) The bone implant according to claim 21, wherein said implant is a dental implant ~~(10)~~.

24. (Currently Amended) The bone implant according to claim 23, further comprising, in addition to a root portion ~~(11)~~, a crown portion ~~(12)~~, an abutment ~~(30)~~ or means ~~(20)~~ for fastening an abutment, a crown ~~(19)~~, a bridge or a set of dentures.

25. (Previously Presented) The bone implant according to claim 1, wherein the bone implant is a shaft of a joint prosthesis.

26. (Previously Presented) The bone implant according to claim 1, wherein the implant is adapted to bridge a bone defect.

27. – 45. (Cancelled)

46. (New) A bone implant suitable for implantation in an implantation direction parallel to an implant axis in a cavity surrounded by a cavity wall of bone tissue comprising an implant portion, wherein the implant portion to be implanted comprises surface ranges of a material, which is liquefiable by mechanical oscillation, and wherein the implant portion to be implanted further comprises cutting edges capable of cutting the cavity wall of bone tissue, said cutting edges being located outside of the surface ranges of liquefiable material provided, said cutting edges not extending in a common plane with the implant axis, said cutting edges facing toward a distal end region of the implant and extending at least partly around the circumference of the implant and wherein said cutting edges are distanced from the implant axis by implant-axis-to-cutting-edge-distances, which implant-axis-to-cutting-edge-distances are decreasing in the implanting direction.

47. (New) A bone implant suitable for implantation in an implantation direction parallel to an implant axis in a cavity surrounded by a cavity wall of bone tissue comprising an implant portion, wherein the implant portion to be implanted comprises surface ranges formed by pressing liquefiable material out of a hollow space in the implant through openings, and wherein the implant portion to be implanted further comprises cutting edges capable of cutting the cavity wall of bone

tissue, said cutting edges being located outside of the surface ranges of liquefiable material to be created, said cutting edges not extending in a common plane with the implant axis, said cutting edges facing toward a distal end region of the implant and extending at least partly around the circumference of the implant and wherein said cutting edges are distanced from the implant axis by implant-axis-to-cutting-edge-distances, which implant-axis-to-cutting-edge-distances are decreasing in the implanting direction.